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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,958	11/15/2001	Michael Baentsch	CH920000029	6674
7590	03/31/2006			
Casey August Intellectual Property Law Dept. IBM Corporation P.O. Box 218 Yorktown Heights, NY 10598			EXAMINER YIGDALL, MICHAEL J	
			ART UNIT 2192	PAPER NUMBER
DATE MAILED: 03/31/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,958

Applicant(s)

BAENTSCH ET AL.

Examiner

Michael J. Yigdall

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 and 19-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17 and 19-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to Applicant's submission filed on December 7, 2005.
Claims 17 and 19-32 are pending.

Response to Arguments

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection, as set forth below with reference to Calamvokis. Applicant's amendment necessitated the new ground(s) of rejection.

Response to Amendment

3. The rejection of claims 19 and 20 under 35 U.S.C. 112, first paragraph, and the rejection of claim 19 under 35 U.S.C. 112, second paragraph, are withdrawn in view of Applicant's amendment.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17 and 19-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over International Pub. No. WO 00/46667 to Schwabe et al. (art of record, "Schwabe") in view of U.S. Patent No. 6,408,374 to Calamvokis et al. (now made of record, "Calamvokis").

With respect to claim 17 (currently amended), Schwabe discloses a Java run-time system (see, for example, page 1, lines 27-29, which shows a Java virtual machine or run-time system) comprising:

(a) a stacked-based interpreter for executing a Java program comprising Java bytecode instructions and Java class structures (see, for example, page 6, lines 18-20, which shows an interpreter for executing Java programs, and page 1, lines 19-26, which shows that the programs comprise Java bytecode instructions and class structures);

(b) a converter for mapping standard Java symbolic linking strings contained in a downloaded Java program onto linking identifiers (see, for example, page 8, lines 17-27, which shows a converter for mapping symbolic names or strings to tokens or identifiers); and

(c) an export table for storing linking identifiers generated by the converter to bind a reference in a bytecode instruction to be executed to a corresponding link target (see, for example, page 8, lines 12-15, which shows an export component or table for storing the tokens or identifiers and linking or binding a reference).

Although Schwabe discloses that the converter uses a function to assign the tokens or identifiers to which the symbolic names or strings are mapped (see, for example, page 14, line 27 to page 15, line 7), Schwabe does not expressly disclose the limitation of element (b) wherein the converter is adapted to use a hash function to map the standard Java symbolic linking strings onto the linking identifiers.

Likewise, although Schwabe discloses that standard Java class files are translated to Java cap files (see, for example, page 8, lines 17-27), Schwabe does not expressly disclose:

(d) wherein the converter is adapted to use a parameterized hash function to map the standard Java symbolic linking strings onto linking identifiers, a parameter for the hash function being contained in the Java program to be downloaded, so that no additional linking information is necessary to translate standard Java class files to Java cap files.

However, Calamvokis discloses a parameterized hash function (see, for example, paragraph 3, lines 34-45) that maps longer input strings onto smaller outputs (see, for example, column 1, lines 65-67). The parameters of the hash function are derived from a hash control code that is determined, in one instance, to provide perfect hashing within the minimum memory space (see, for example, column 4, lines 53-63), accordingly so that no additional information is necessary. Calamvokis further discloses that the hash control code is included with the input (see, for example, column 6, lines 11-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the converter of Schwabe to use a parameterized hash function, such as in Calamvokis, so as to map the standard Java symbolic linking strings onto smaller linking identifiers, in a manner that provides perfect hashing within the minimum memory space. A goal of Schwabe, in fact, is to provide such identifiers so as to consume less memory on a system with limited resources (see, for example, page 2, lines 27-29).

With respect to claim 19 (currently amended), the rejection of claim 17 is incorporated, and Calamvokis further discloses the limitation wherein the parameter is used so that different symbolic linking strings are not mapped to the same linking identifiers (see, for example, column 4, lines 53-63, which shows that the parameters are used to provide perfect hashing, and column

1, lines 43-46, which further shows that perfect hashing is the case wherein different input strings are not mapped to the same values).

Moreover, Schwabe further discloses assigning tokens or identifiers in such a way as to ensure that two symbolic names or strings are not mapped to the same identifier (see, for example, page 14, line 27 to page 15, line 7).

With respect to claim 20 (currently amended), the rejection of claim 17 is incorporated, and Schwabe further discloses the limitation wherein each linking identifier is a short token (see, for example, FIGS. 7A-7C, which shows that the tokens or linking identifiers are short tokens).

With respect to claim 21 (previously presented), the rejection of claim 20 is incorporated, and Schwabe further discloses the limitation wherein the short token is a number (see, for example, page 7, line 33 to page 8, line 3, which shows that the tokens are numerical values).

With respect to claim 22 (previously presented), the rejection of claim 20 is incorporated, and Schwabe further discloses the limitation wherein the short token is a short integer (see, for example, page 12, table, which shows the ranges of the tokens as short integers).

With respect to claim 23 (previously presented), the rejection of claim 23 is incorporated, and Schwabe further discloses the limitation wherein the run-time system is ported on an embedded microcontroller of a smart card (see, for example, page 2, lines 7-17, which shows porting the run-time system on an embedded processor or microcontroller of a smart card).

With respect to claims 24-26 (currently amended), the claims recite a method that corresponds to the system recited in claims 17 and 19 (see the rejection of claims 17 and 19 above).

With respect to claim 27 (previously presented), the rejection of claim 25 is incorporated, and Schwabe further discloses the limitation wherein the parameter is calculated by a cap file generator (see, for example, page 8, lines 17-27, which shows a converter for generating a CAP file, and page 14, lines 6-8, which shows that the converter assigns the tokens or identifiers, and see, for example, page 14, line 27 to page 15, line 7, which shows calculating a current token value or parameter so as to ensure that two symbolic names or strings are not mapped to the same identifier).

With respect to claim 28 (previously presented), the rejection of claim 25 is incorporated, and Schwabe further discloses the limitation wherein the parameter is calculated by checking the symbolic linking strings and varying a start parameter until a parameter is formed that satisfies a requirement that the hash function maps all symbolic linking strings on different linking identifiers (see, for example, page 14, line 27 to page 15, line 7, which shows checking the symbolic names or strings and varying a initial token value or parameter until a current token value or parameter is formed such that all symbolic names or strings are mapped to different tokens or identifiers).

Moreover, Calamvokis discloses an analogous, automated "trial and error" method to calculate the parameters (see, for example, column 4, lines 53-63).

With respect to claim 29 (currently amended), the claim recites a computer-readable medium that corresponds to the system of claim 17 (see the rejection of claim 17 above).

With respect to claim 30 (previously presented), the rejection of claim 29 is incorporated, and Schwabe further discloses the limitation wherein the export table comprises a Java Card export file (see, for example, page 7, lines 3-7, which shows that the export table conforms to the Java Card API and is thus a Java Card export file).

With respect to claims 31 and 32 (previously presented), the rejection of claim 29 is incorporated, and the claims correspond to claims 18 and 19, respectively (see the rejection of claims 18 and 19 above).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Yigdall whose telephone number is (571) 272-3707. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MY

Michael J. Yigdall
Examiner
Art Unit 2192

mjy


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SUPERVISORY PATENT EXAMINER